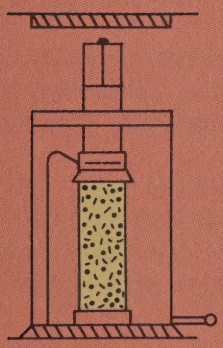
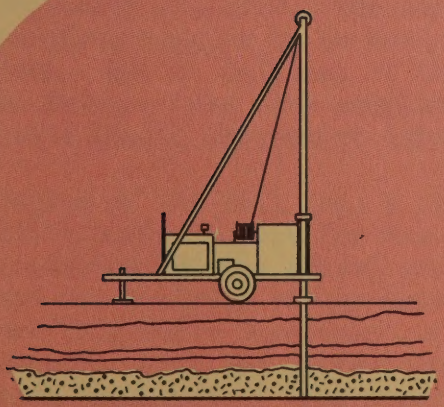
STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

SOIL MECHANICS BUREAU





TEST WELL REPORT

PROPOSED RESIDENT ENGINEERS
SUBHEADQUARTERS AT RAYBROOK

PIN 1800.73.101
CONTRACT D96199

ESSEX COUNTY

SM 238b (1/73)

MEMORANDUM

DEPARTMENT OF TRANSPORTATION

DATE October 26, 1979

SUBJECT PIN 1800.73.101; D96199
TEST WELL FOR PROPOSED MAINTENANCE ENGINEERS SUBHEADQUARTERS
AT RAY BROOK: ESSEX COUNTY

FROM R. J. Bazarnick, Assistant Engineering Geologist

TO E. M. Moody, Associate Soils Engineer

On September 19, 1979, the contractor, Hall and Company, Inc., began work on the subject project. On September 20, 1979, the 12 inch oversized hole had been drilled to a depth of 32.5 feet from ground surface and the contractor was asked to stop drilling at that point since the grain size of the samples began getting finer with depth. The writer conducted sieve analyses on five samples from 20 to 32 feet in depth as measured from the ground surface. The results of these sieve analyses showed that the well should be finished only to a depth of 30 feet from ground surface. The writer also made the determinations of the gravel pack gradation and the screen slot size from these curves. The gradation of the proposed gravel pack and the screen slot size and screen length were given to the contractor on September 21, 1979.

On September 25, 1979, the contractor, having procurred the correct gravel pack mixture and well screen, began constructing the 12 inch by 6 inch gravel packed and screened well as designed.

On September 26, 1979, the contractor began developing the test well. Development of the well proceeded for a total of 7.5 hours until only small amounts of sand from the water-bearing formation were being pumped from within the screen. The well was then chlorinated, recirculated and left overnight.

A 12 hour continuous yield test was run from 6AM until 6 PM on September 27, 1979. The contractor took bacteriological and chemical-physical samples to be analyzed by Bender Laboratories in Albany, New York. Mr. J. Callahan of the New York State Department of Health office in Saranac Lake took samples of the water and sent them to the New York State Health Department laboratories in Albany, New York, for analyses.

Copies of the well log, a cross section of the well, the grain size distribution curves for the five samples analyzed, the curve and gradation for the gravel pack, the results of the 12 hour pump test and the analyses of the water samples by both Bender Laboratories and New York State Department of Health Laboratories are included in this report. Both the bacteriological and chemical-physical reports indicate that treatment of this source is not necessary.

As a result of the pump test, this Bureau recommends that the pump intake be set at approximately 24.5 feet below the existing ground surface and the pumping rate should not exceed 25 gpm.

RJB:sd

NYSDOT
Library
50 Wolf Road, POD 34
Albany, New York 12232

Region No. 1
County Essex
Proj. No. 1800.73.101
Requesting Dept.
Project Proposed Maintenance Engineer's Subheadquarters at Ray Brook

State of New York
Dept. of Transportation
Soil Mechanics Bureau
TEST WELL LOG

Test Well No. 1
Gr. Elev.
Location

Depth, ft.	Description
5	Medium sand, some silt and gravel
10	Medium sand, some silt
15	Medium sand, some silt
20	Medium to fine sand some silt and gravel
25	Medium to fine sand, some silt and gravel
30	Medium sand, some silt and gravel
	Medium sand, some silt and gravel
	Medium to fine sand, some silt and gravel
	Fine sand and silt
	Bottom of 12" oversized hole

Date Start 9/19/79
Date Finish 9/27/79
Contractor Hall & Company, Inc.
Driller Dick Rowe
EIC Charles Flewelling
Inspector R. J. Bazarnick
Rig Type Cable

Well Data

Hole Diam. 12 inches
Final Depth 30 feet
Casing Diam. 6 inches
Casing Length 27.5 feet
Casing Above Ground 2.5 feet
Screen Type Johnson Super Stainless-20 slot
Screen Setting -30 to -25 feet
Gravel Pack -30.5 feet to -14 feet
Grout None

Development 7.5 hours of continuous surging and simultaneous pumping.

Test Data

Static Depth to Water 15.28 feet
Pump Setting 29 feet
Pumping Rate 25 gpm
Date and Duration 9/27/79
Specific Capacity 4.1 gpm/ft

Recommendations

Pump Setting intake at -24.5 ft.
Pumping Rate No greater than 25 gpm

Remarks All depths are distances from ground surface

20-22'

U.S. DEPARTMENT OF TRANSPORTATION

Sheet ___ of ___ Prep. by ___ Date ___

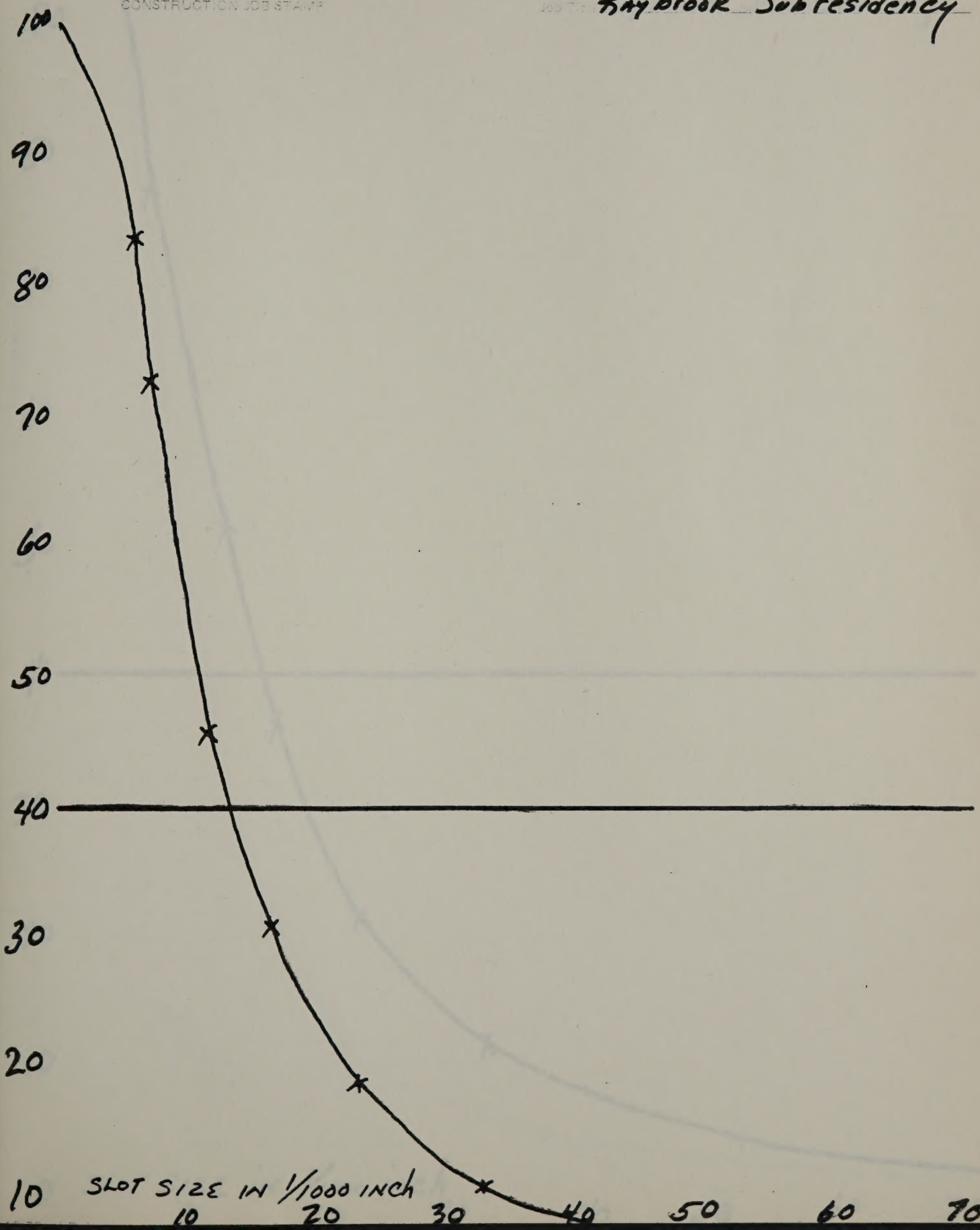
Checked by ___ Date ___ Design Idents./SR No. ___

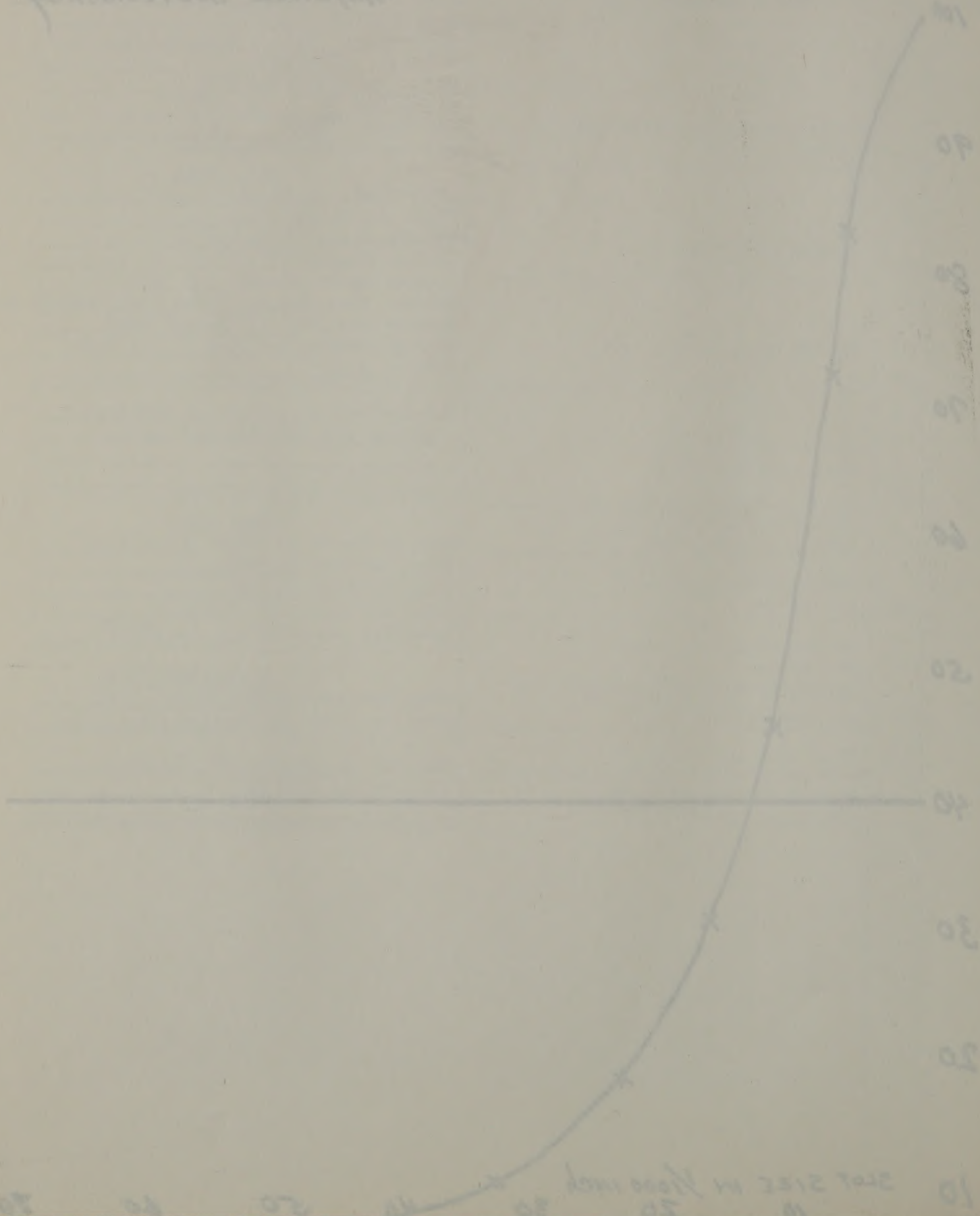
County ___ P.I.N. ___

Job Title ___

CONSTRUCTION JOB STAMP

Raybrook Subresidency





22-25'

N.Y.S. DEPARTMENT OF TRANSPORTATION

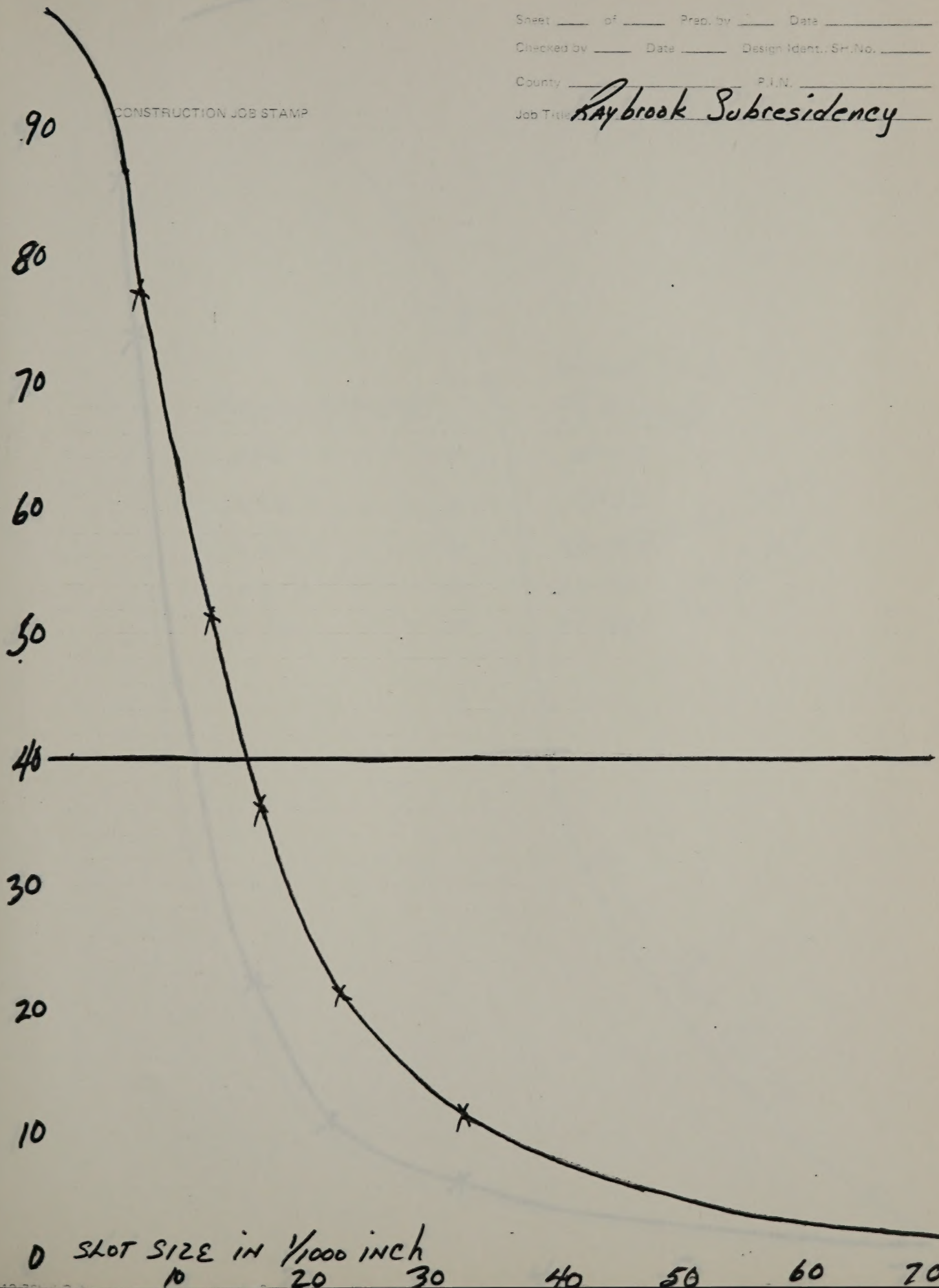
Sheet ____ of ____ Prep. by ____ Date ____

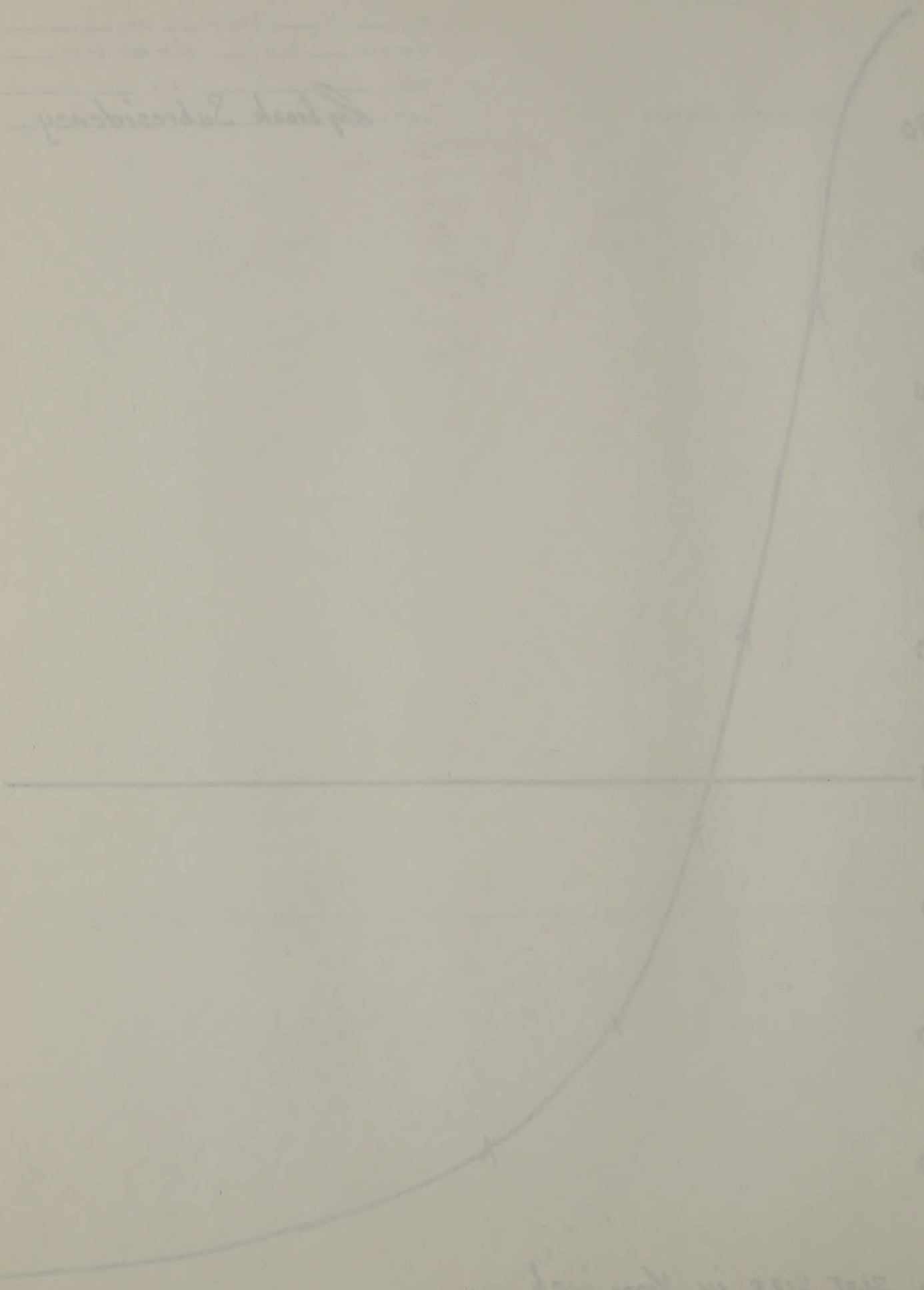
Checked by ____ Date ____ Design Ident./SH.No. ____

County ____ P.I.N. ____

Job Title: Raybrook Subresidency

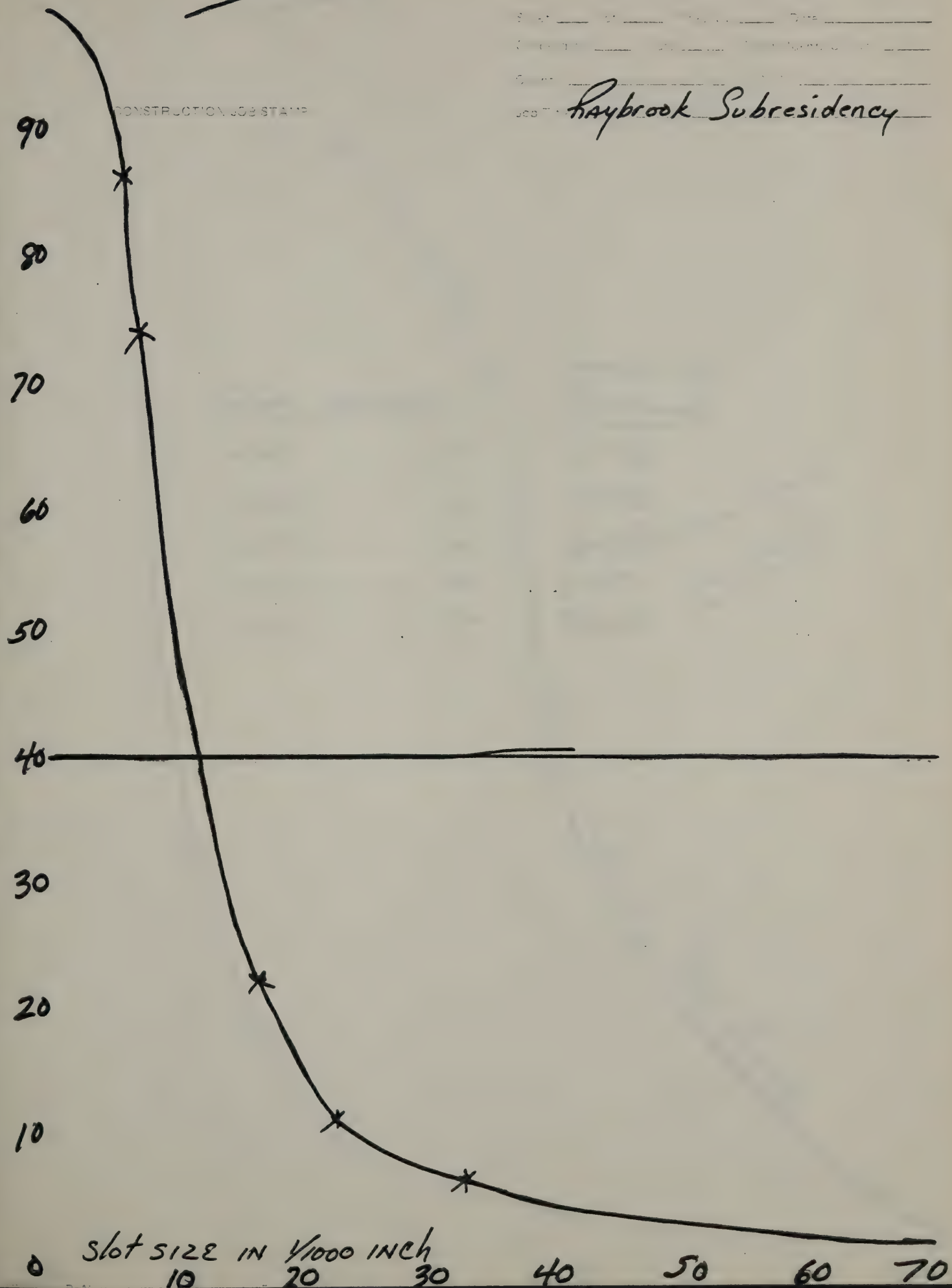
CONSTRUCTION JOB STAMP

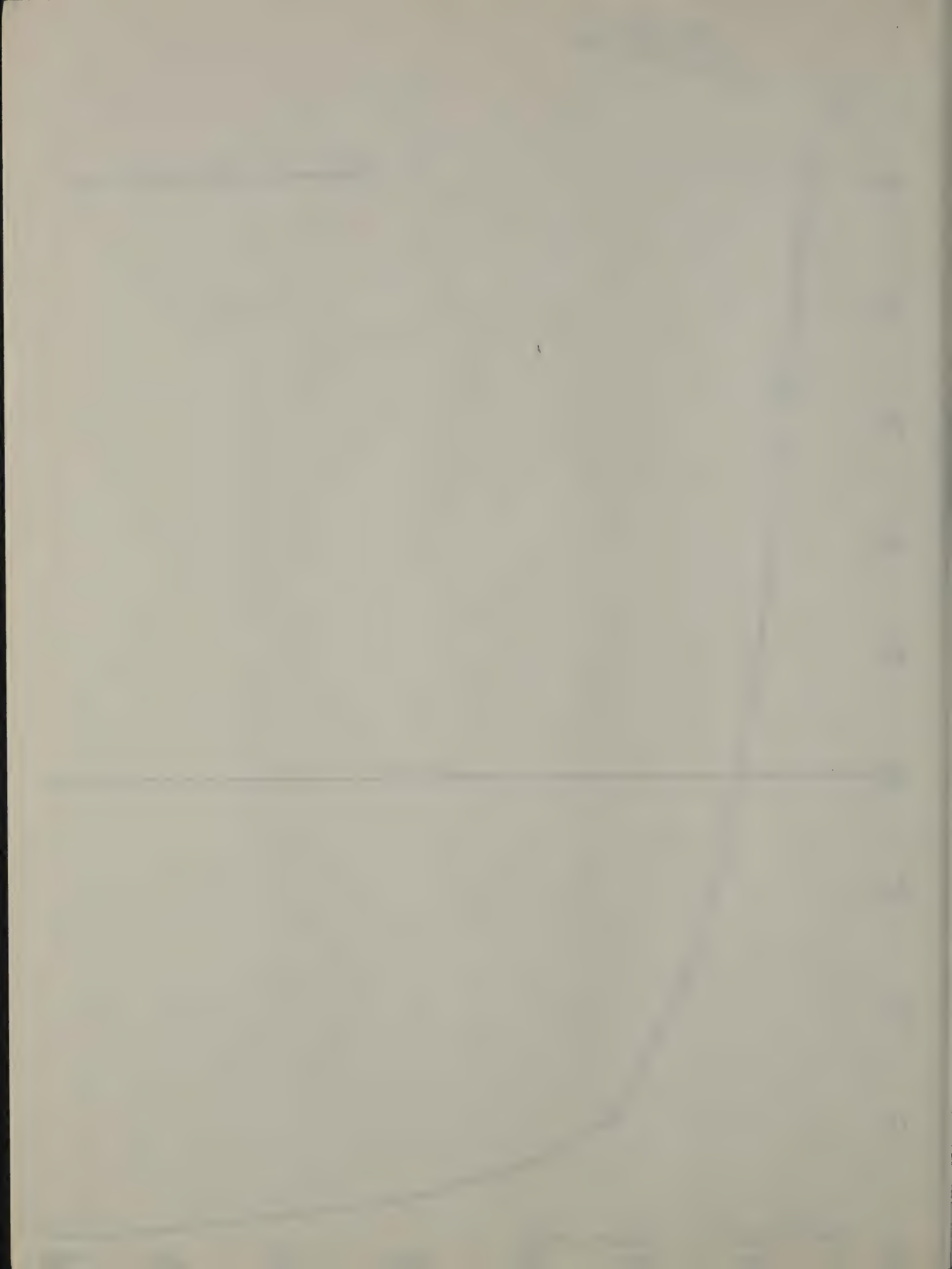




25-28'

Job Raybrook Subresidency

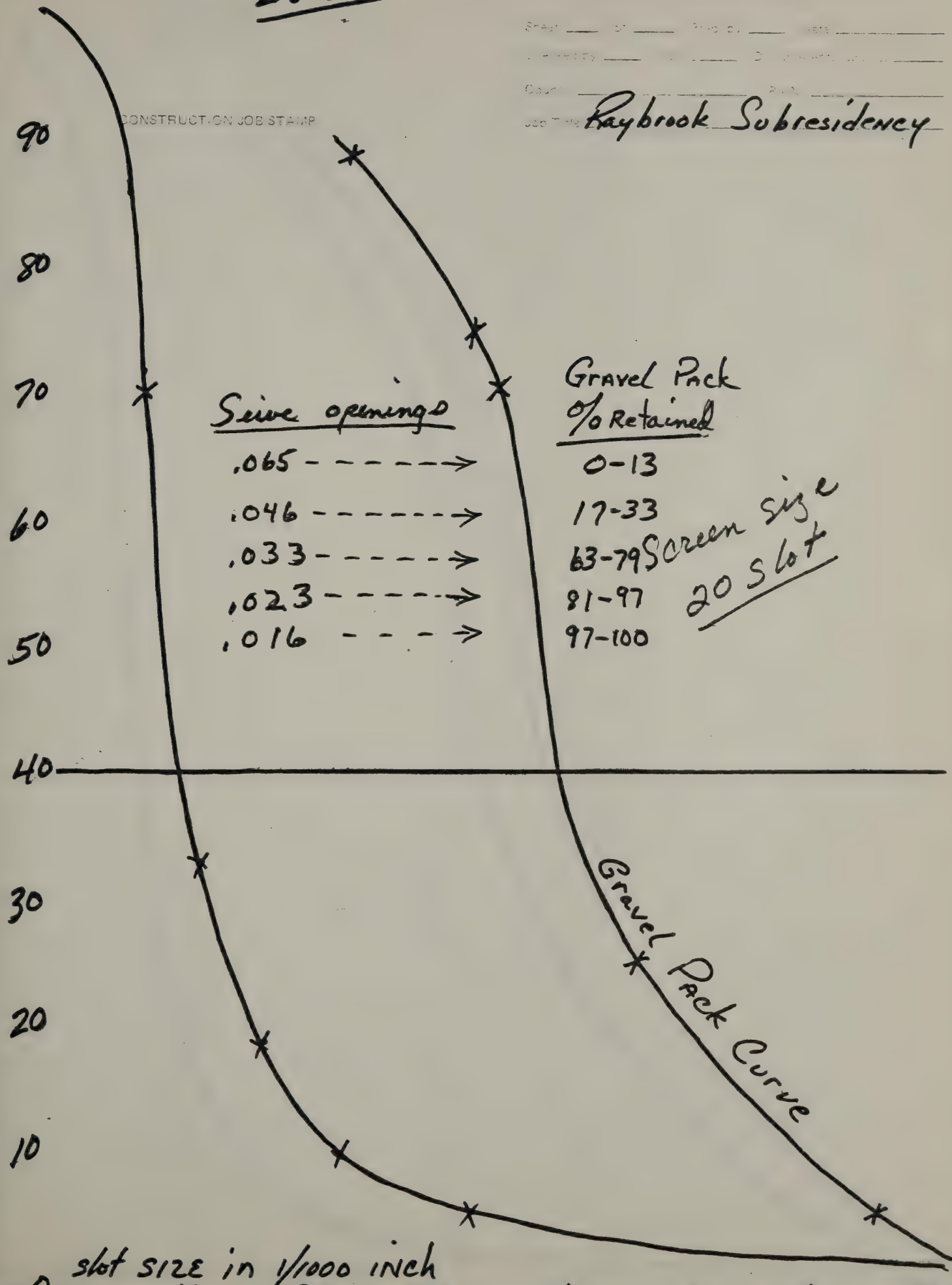




28-30'

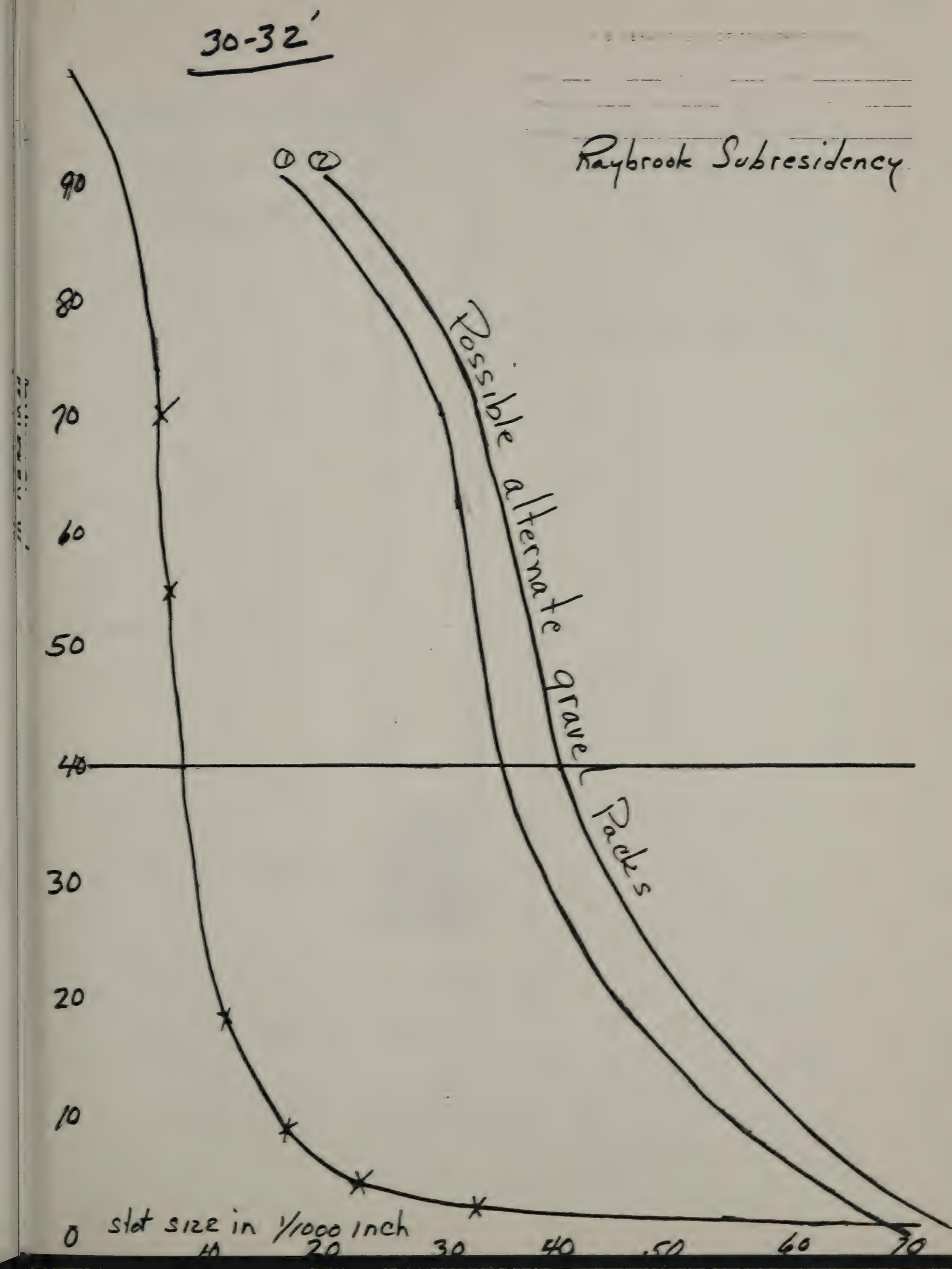
CONSTRUCTION JOB STAMP

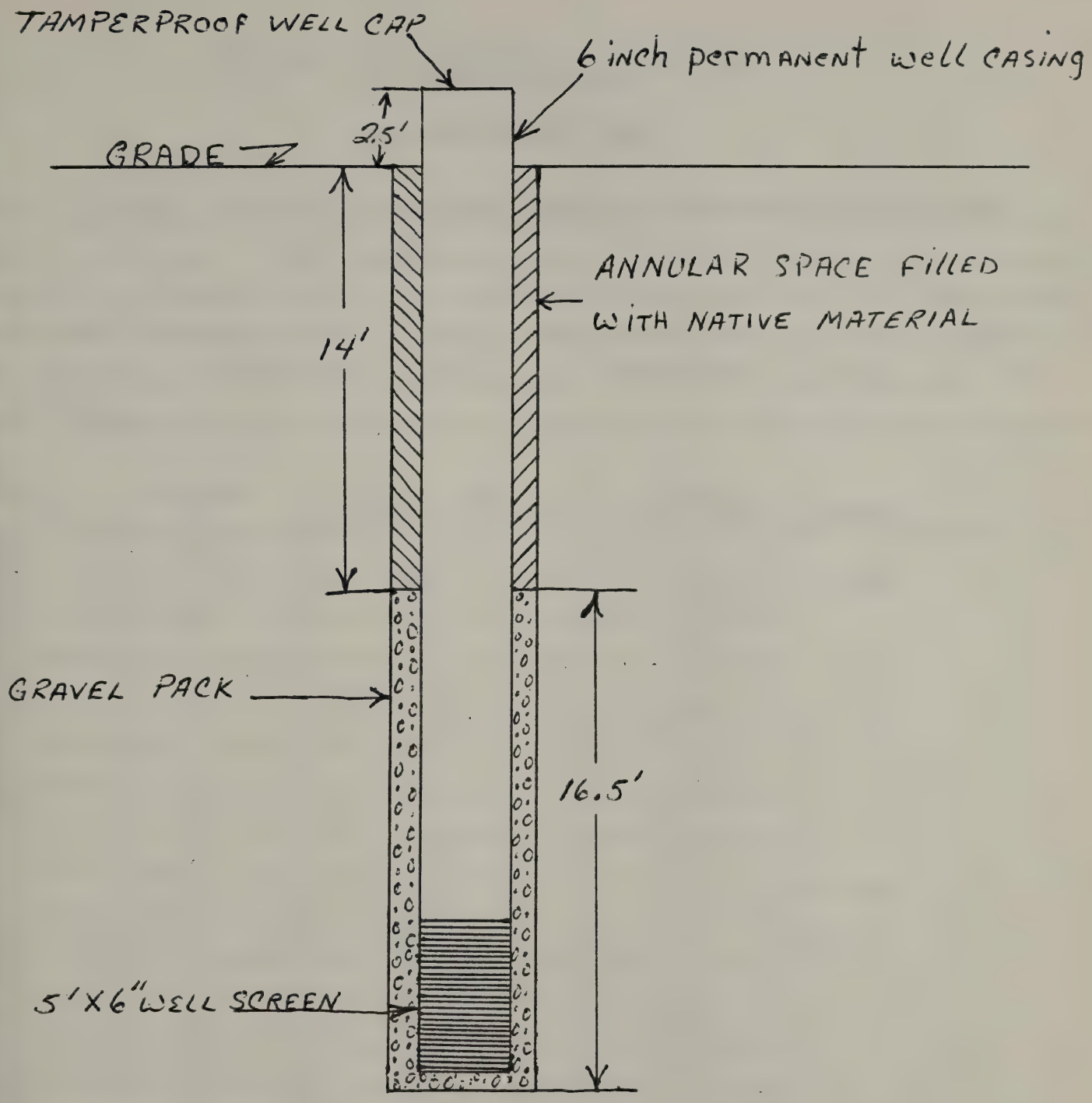
Raybrook Subresidency



30-32'

Raybrook Subresidency





WELL PROFILE

NOT TO SCALE

New York State Department of Transportation
Soil Mechanics Bureau

CONSTANT RATE PUMP TEST

Project Test well for proposed Maintenance Engineers Subheadquarters at Ray Brook

Region 1 : County Essex : PIN 1800.73.101

Hole No. 1 Finished -30 ft. Elev. ground surface ref - 0 Elev. top of pipe +2.5 ft.

Static level (below top of pipe) 17.83 ft. : Pump Intake (below top of pipe) 31.50 ft.

Date 9/27/79 : Time Started 6:00 AM : Pumping Rate 25 GPM

Weather Clear

Time AM	Time PM	Elapsed time	Water Depth below top of pipe	Drawdown from static	Remarks
6:00		0	17.83	0	
6:01		1	20.29	2.46	159 gpm
6:02		2	20.38	2.55	
6:03		3	20.38	2.55	
6:04		4	20.42	2.59	
6:05		5	20.77	2.94	
6:06		6	21.17	3.34	20 gpm
6:07		7	21.13	3.30	
6:08		8	21.13	3.30	
6:09		9	21.25	3.42	
6:10		10	21.29	3.46	
6:20		20	23.25	5.42	20+ gpm
6:25		25	23.25	5.42	
6:30		30	23.67	5.84	25 gpm
6:35		35	23.71	5.88	
6:40		40	23.50	5.67	
6:45		45	23.54	5.71	
6:50		50	23.54	5.71	
6:55		55	23.50	5.67	
7:00		60	23.54	5.71	
7:10		70	23.71	5.88	
7:20		80	23.75	5.92	
7:30		90	23.83	6.00	
7:40		100	23.79	5.96	
8:00		120	23.83	6.00	
8:20		140	23.83	6.00	
8:40		160	23.54	5.71	
9:00		180	23.83	6.00	
9:20		200	23.88	6.05	
10:10		250	23.81	5.98	
11:00		300	23.75	5.92	

New York State Department of Transportation
Soil Mechanics Bureau

CONSTANT RATE PUMP TEST

Project Test well for proposed Maintenance Engineers Subheadquarters at Ray Brook

Region 1 : County Essex : PIN 1800.73.101

Hole No. 1 Finished -30 Elev. ground surfaceref-0 Elev. top of pipe +2.5 ft.

Static level (below top of pipe) 17.83 ft. : Pump Intake (below top of pipe) 31.50 ft.

Date 9/27/79 : Time Started 6:00 AM : Pumping Rate 25 GPM

Weather Clear

Time AM	Time PM	Elapsed time	Water Depth below top of pipe	Drawdown from static	Remarks
11:50		350	23.62	5.84	
	12:40	400	23.83	6.00	
	1:30	450	23.79	5.96	
	2:20	500	23.92	6.09	
	3:10	550	24.10	6.27	
	4:00	600	24.17	6.34	
	4:50	650	24.17	6.34	
	6:00	720	24.0	6.17	

OLLECTED 9/27/79 DATE RECEIVED 3:23 LAB. NO. 037871

BENDER HYGIENIC LABORATORY

9 SAMARITAN DRIVE, ALBANY, NEW YORK 12208

Physical and Chemical Examination of Water

rom Ray Brook Contract D96199 — Essex
City, Village, Town, etc. — County

f Water Supply NYSDOT — Tenant of Property

g Point Well #1

acteriological sample being submitted? Yes X No ____

hlorinated when sample? Yes ____ No X

ollected by R. Rowe — Title Driller

port to: NAME Hall + Co., Inc. — Bill to: NAME Same

ADDRESS 20 Hallwood Rd. — ADDRESS ____

Delmar, NY 12054

PHONE ____

Physical			Chemical Cont.		
	<5	units	9. Iron	<0.05	mg/L
city	0.8	units	10. Manganese	<0.05	mg/L
	0		11. Chloride	<5	mg/L
	6.6	units	12. Sulfate	<5	mg/L
ctance	34	micromhos	Other		
Chemical					
Alkalinity, as $CaCO_3$	11	mg/L			
ness, as $CaCO_3$	22	mg/L			
e, as N	<0.5	mg/L			

viations: mg/L — milligrams per liter

< — less than

Analyst JD

Date 10/1/79

REPORT 1

OCT - 3 1979
SOIL MECHANICS BUREAU

S.M.B.
LHM
WPM
SM
MJM
RAR
EMM
BEB
VCM
LDS
RHB
FRI
RJW
JRH
FILE

0222

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION
(PAGE 1 OF 1)

LAB ACCESSION NO: 09719 YR/MO/DAY/HR SAMPLE REC'D: 79/09/28/08

REPORTING LAB: 01 EHC ALBANY
PROGRAM: 820 NYS DEPT. OF TRANSP.
STATION (SOURCE) NO:
DRAINAGE BASIN: NY GAZETTEER NO: 1560 COUNTY: ESSEX
COORDINATES: DEG ' "N. DEG ' "W
COMMON NAME INCL SUBW'SHED: RAY BROOK MAINT SUB RESIDENCE N ELBA

EXACT SAMPLING POINT: PUMP TEST LINE
TYPE OF SAMPLE: 12 WATER, DRILLED WELL
MO/DAY/HR OF SAMPLING: FROM 00/00 TO 09/27/14
REPORT SENT TO: CO (1) RO (1) LPHE (2) LHD (0) FED (0) CHEM (0)

	PARAMETER	UNIT	RESULT	NOTATION
026800	STD.PLATE COUNT 48 HR /ML.		1.	LT
027000	COLIF. MF COL/100ML		1.	LT

DATE COMPLETED: 10/01/79

DEPUTY CHIEF ENGINEER, TECHNICAL SERVICES
NYS DEPT.OF TRANSPORTATION, BLDG. 7A
1220 WASHINGTON AVENUE
ALBANY, N.Y. 12226

SUBMITTED BY: HOFMANN

0316

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION
(PAGE 2 OF 2)

LAB ACCESSION NO: 01363 YR/MO/DAY/HR SAMPLE REC'D: 79/10/09/11

REPORTING LAB: 10 EHC ALBANY
PROGRAM: 820 NYS DEPT. OF TRANSP.
STATION (SOURCE) NO:
DRAINAGE BASIN: NY GAZETTEER NO: 1560 COUNTY: ESSEX
COORDINATES: DEG ' "N, DEG ' "W
COMMON NAME INCL SUBW'SHED: RAY BROOK MAINTENANCE SUB RES NORTH ELBA

EXACT SAMPLING POINT: PUMP TEST LINE
TYPE OF SAMPLE: 12 WATER, DRILLED WELL
MO/DAY/HR OF SAMPLING: FROM 00/00 TO 09/27/14
REPORT SENT TO: CO (1) RO (1) LPHE (2) LHO (0) FED (0) CHEM (0)

	PARAMETER	UNIT	RESULT	NOTATION
010701	SODIUM	MG/L	0.9	
100200	TURBIDITY,N.T.U.NEPHEL.			NA
100300	ODOR, COLD		NONE.	
101501	ALKALINITY,ELECTROM.PH4.5	MG/L	5.0	
106501	C.O.D.	MG/L		SD
309301	ARSENIC	MG/L	0.01	LT
309701	CADMIUM	MG/L	0.002	LT
309801	CHROMIUM	MG/L	0.01	
310101	LEAD	MG/L	0.01	LT
310501	SELENIUM	MG/L	0.01	LT
009301	ARSENIC	MG/L	0.5	LT

DATE COMPLETED: 11/15/79

DEPUTY CHIEF ENGINEER,TECHNICAL SERVICES
NYS DEPT.OF TRANSPORTATION, BLDG. 7A
1220 WASHINGTON AVENUE
ALBANY, N.Y. 12226

SUBMITTED BY: HOFFMAN

0315

NEW YORK STATE DEPARTMENT OF HEALTH
DIVISION OF LABORATORIES AND RESEARCH
ENVIRONMENTAL HEALTH CENTER

RESULTS OF EXAMINATION
(PAGE 1 OF 2)

LAB ACCESSION NO: 01363 YR/MO/DAY/HR SAMPLE REC'D: 79/10/09/11

REPORTING LAB: 10 EHC ALBANY
PROGRAM: 820 NYS DEPT. OF TRANSP.
STATION (SOURCE) NO:
DRAINAGE BASIN: NY GAZETTEER NO: 1560 COUNTY: ESSEX
COORDINATES: DEG ' "N, DEG ' "W
COMMON NAME INCL SUBW'SHED: RAY BROOK MAINTENANCE SUB RES NORTH ELBA

EXACT SAMPLING POINT: PUMP TEST LINE
TYPE OF SAMPLE: 12 WATER, DRILLED WELL
MO/DAY/HR OF SAMPLING: FROM 00/00 TO 09/27/14
REPORT SENT TO: CO (1) RO (1) LPHE (2) LHO (0) FED (0) CHEM (0)

	PARAMETER	UNIT	RESULT	NOTATION
000100	COLOR (APPARENT)		16.	
000401	FLUORIDE,FREE	MG/L	0.1	LT
000501	NITROGEN, AMMONIA	MG/L	0.023	
000709	NITROGEN, NITRITE	MCG/L	5.	LT
000801	NITROGEN,NITRATE&NITRITE	MG/L	0.2	LT
001001	CHLORIDE	MG/L	3.	LT
001101	HARDNESS, TOTAL AS CACO3	MG/L	14.	
001900	PH (LABORATORY)		5.8	
009401	BARIUM	MG/L	0.5	LT
010001	IRON	MG/L	0.05	LT
010201	MANGANESE	MG/L	0.02	LT
010301	MERCURY, TOTAL	MG/L	0.0004	LT
010601	SILVER	MG/L	0.02	LT

DATE COMPLETED: 11/15/79

DEPUTY CHIEF ENGINEER,TECHNICAL SERVICES
NYS DEPT.OF TRANSPORTATION, BLDG. 7A
1220 WASHINGTON AVENUE
ALBANY, N.Y. 12226

SUBMITTED BY: HOFFMAN

November 20, 1979

PIN 1800.73-101, D96199
TEST WELL REPORT
PROPOSED MAINTENANCE ENGINEER'S SUBHEADQUARTERS
AT RAY BROOK
ESSEX COUNTY
L. H. Moore, Director, Soil Mechanics Bureau, Room 102, Bldg. 7
By: Edward M. Moody
C. E. Carlson, Regional Director, Region 1
Attention: W. M. Stewart

cc D. H. Fasser, Landscaping Bureau, Room 407, Bldg. 5

The attached memorandum was prepared by R. J. Bazarnick, Assistant Engineering Geologist, of this Bureau. It details the drilling and pumping operations conducted on this project and contains pertinent data relative to the well testing.

We concur with the geologist's recommendations.

EMM/FJG/sas
Attachment

MEMORANDUM

DEPARTMENT OF TRANSPORTATION

DATE November 20, 1979

SUBJECT PIN 1800.73-101, D96199
TEST WELL REPORT
PROPOSED MAINTENANCE ENGINEER'S SUBHEADQUARTERS
AT RAY BROOK
ESSEX COUNTY

FROM L. H. Moore, Director, Soil Mechanics Bureau, Room 102, Bldg. 7
By: Edward M. Moody

TO C. E. Carlson, Regional Director, Region 1
Attention: W. M. Stewart

cc D. H. Fasser, Landscaping Bureau, Room 407, Bldg. 5

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EMM/FJG/sas
Attachment

00972
LRI